Vancomycin-Resistant *Staphylococcus aureus* Undetected by Laboratory Using Automated Method for Antimicrobial Susceptibility Testing

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On April 23, 2004, the Centers for Disease Control and Prevention (CDC) reported the third identified case of Vancomycin-Resistant *Staphylococcus aureus* (VRSA) in the United States. The report was published in the *Morbidity and Mortality Weekly Report* and can be found at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5315a6.htm.

The isolate of concern was obtained from a urine specimen taken from a resident of a long-term care facility in New York on March 17, 2004. The isolate was susceptible to chloramphenicol, linezolid, minocycline, quinupristin-dalfopristin, rifampin, and trimethoprim-sulfamethoxazole. The resident remains long-term care facility. The initial testing was performed using Microscan® overnight panels (Dad Behring, Deerfield, Illinois). Further testing by Etest® (AB Biodisk North America, Inc., Piscataway, New Jersey) indicated that the isolate was resistant to vancomycin.

Testing by the New York Sate Department of Health and the CDC confirmed VRSA. Additional testing at CDC indicated that Microscan® and Vitek® (bioMerieux, Hazelwood, Missouri) testing panels and cards available in the United States did not detect vancomycin resistance in this isolate. It is possible that VRSA infections may have been undetected. The CDC states that potential VRSA isolates should be saved for confirmatory testing. The CDC also states that the most accurate form of vancomycin susceptibility testing for staphylococci is a nonautomated minimum inhibitory concentration (MIC) method (e.g. broth microdilution, agar dilution, or agar-gradient diffusion) in which the organisms are incubated for 24 hours before reading the results.

As a result of this finding, the CDC recommends the following when performing automated susceptibility testing of *S. aureus* strains, particularly methicillin-resistant *S. aureus*:

> **Laboratories should include a vancomycin-agar screening plate containing 6 µg/ML of vancomycin and examine the plate for growth after 24-hour incubation.**

In addition, the CDC updated guidance on investigation and control of vancomycin-intermediate and –resistant *Staphylococcus aureus* (VISA/VRSA) on April 21, 2004. The CDC is now requesting that *S. aureus* isolates for which the vancomycin MICs are ≥4µg/ml should be saved and confirmed by a public health laboratory and/or CDC. This guidance is found at http://www.cdc.gov/ncidod/hip/vanco/vanco.htm.
